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(54) METHOD FOR PRODUCING EPITAXIAL WAFER

(57)Abstract:

PROBLEM TO BE SOLVED: To produce an epitaxial wafer low in the epitaxial defect density.

SOLUTION: (1) A method for producing an epitaxial wafer comprises using a silicion single crystal wafer which is doped with nitrogen and contains oxygen in a concentration of ≤9×1017 atom/cm3 in an OSF ring area. (2) A method for producing an epitaxial wafer comprises using a silicon single crystal wafer which is doped with nitrogen and is grown so that the inner diameter of an OSF ring area is ≥85% of the diameter of the wafer. (3) A method for producing an epitaxial wafer comprises using a silicon single crystal wafer which is doped with nitrogen in a concentration of ≥1×1012 and ≤ 1×1014 atom/cm3 and is grown with a pulling-up velocity of ≥1.2 mm/min. (4) A method for producing an epitaxial wafer comprises growing an epitaxial layer after heat treating a silicon single crystal wafer at 1,200 to 1,300°C for at least 1 min, which wafer is grown while doping nitrogen in a concentration of ≥1×1012 and ≤1×1014 atom/cm3.

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